

Mobile, Alabama, 19th.—A cotton house and residence was struck by lightning and set on fire during thunder-storm of this date.

New Orleans, Louisiana, 19th.—Several buildings and trees were struck by lightning during the thunder-storm of this date; in one instance a house was set on fire and damaged to a considerable extent. The top-gallant-mast of the bark "Unga" was shattered by lightning.

Buffalo, Texas, 19th.—A house was struck by lightning on this date, and six of the inmates were severely shocked.

Fort Scott, Kansas, 12th.—During thunder-storm, a barn near this place was struck by lightning and burned, together with a large amount of hay and grain, and some live-stock.

OPTICAL PHENOMENA.

SOLAR HALOS.

Solar halos have been observed in the various districts, on the following dates:—

New England.—4th, 9th, 11th, 12th, 13th, 16th, 18th, 19th.

Middle Atlantic states.—3d, 4th, 10th, 11th, 12th, 18th, 24th, 25th, 31st.

South Atlantic states.—2d, 3d, 8th, 13th, 15th, 18th, 28th, 29th.

Ohio valley and Tennessee.—9th, 12th, 14th, 15th, 16th, 18th, 21st, 22d, 30th, 31st.

Lower lakes.—4th, 10th, 11th, 15th, 24th, 26th, 30th.

Upper lakes.—1st, 4th, 8th, 9th, 10th, 14th, 16th, 18th, 22d, 23d.

Extreme northwest.—2d, 3d, 4th, 6th, 10th, 13th, 17th, 25th, 26th.

Upper Mississippi valley.—1st, 2d, 3d, 7th to 15th, 18th to 22d, 25th, 27th, 30th, 31st.

Missouri valley.—1st, 2d, 5th, 6th, 8th, 9th, 12th, 13th, 14th, 17th, 19th, 22d, 30th.

California.—11th, 13th, 14th, 18th, 25th, 26th, 28th.

Solar halos were also reported from the following stations, not included in the districts named above:—

Key West, Florida, 2d, 16th; Palestine, Texas, 11th, 14th, 17th, 18th, 28th to 30th; Fort Keogh, Montana, 14th, 21st, 28th; Creswell, Kansas, 2d, 19th; Salina, Kansas, 20th; Yates Centre, Kansas, 11th, 31st; Santa Fé, New Mexico, 20th.

Mr. Henry White, at Fargo, Dakota, reports interesting halos and parhelia, observed by him at that point on the morning of the 13th of January (the hour is not specified). A horizontal band of light extended through the sun, indefinitely to the right and left, and a vertical band extended to an altitude of apparently 45°; circular halos surrounded the sun, the inner one apparently having the ordinary angular radius of 22½°, and beyond this, one of 45°; a fragmentary arc parallel to these circles existed in the upper portion of the space between them; at the intersection of the circles and horizontal band, parhelia were observed. Excepting the presence of the vertical band and fragmentary arc, this system of halos and parhelia was as is represented in paragraph 428, Loomis's Meteorology.

LUNAR HALOS.

Lunar halos have been observed in the various districts, on the following dates:—

New England.—1st, 15th, 18th, 25th, 26th, 27th.

Middle Atlantic states.—4th, 11th, 13th to 16th, 18th, 21st to 24th, 31st.

South Atlantic states.—13th, 15th, 17th to 20th, 25th.

Eastern Gulf.—1st, 3d, 11th, 17th, 20th, 21st, 31st.

Western Gulf.—2d, 14th, 16th to 21st, 31st.

Ohio valley and Tennessee.—11th, 12th, 14th to 26th, 30th.

Lower lakes.—11th, 15th, 16th, 19th, 21st, 23d.

Upper lakes.—1st, 13th to 19th, 22d to 26th, 29th.

Extreme northwest.—14th, 17th, 18th, 20th, 21st, 23d, 25th.

Upper Mississippi valley.—1st, 13th, 14th, 17th to 22d, 24th, 25th, 26th, 31st.

Missouri valley.—13th, 14th, 17th to 20th, 22d to 25th, 27th, 28th.

Northern slope.—13th to 21st, 24th, 25th.

Southern slope.—11th, 19th, 20th, 31st.

Southern plateau.—2d, 4th, 11th, 13th, 14th, 27th.

California.—3d, 22d, 24th, 25th, 26th, 30th.

Lunar halos were also reported from the following stations, not included in the districts named above:—

Cedar Keys, Florida, 16th, 17th; Eagle Pass, Texas, 17th, 18th, 20th, 24th, 28th; Pike's Peak, Colorado, 20th; Yates Centre, Kansas, 22d; Salt Lake City, Utah, 21st; Pioche, Nevada, 1st, 13th, 14th; Umatilla, Oregon, 12th; Roseburg, Oregon, 21st.

MIRAGE.

Wicklow, Dakota, 1st.—At sunrise the horizon between the sw., and wsw., appeared from ten to fifteen feet higher than its natural position.

Pretty Prairie, Kansas, 21st.

Genoa, Nebraska, 24th, 27th, 28th, 29th.

Indianola, Texas, 7th, 9th, 14th, 16th, 22d, 23d.

Portsmouth, North Carolina, 17th.—Captain Fisher of the schooner "Sophia Hanson," which went ashore near Ocracoke on the 16th, states that the disaster was due in part to the effects of mirage.

MISCELLANEOUS PHENOMENA.

SUNSETS.

The characteristics of the sky, as indicative of fair or foul weather for the succeeding twenty-four hours, have been observed at all Signal Service stations. Reports from one hundred and sixty-nine stations show 5,176 observations to have been made, of which twenty-one were reported doubtful; of the remainder, 5,155, there were 4,341, or 84.2 per cent., followed by the expected weather.

SUN SPOTS.

The following record of sun spots for the month of January, 1883, has been forwarded by Mr. D. P. Todd, Director of the Lawrence Observatory, Amherst, Massachusetts:—

DATE— Jan., 1883.	No. of new		Disappear'd by solar rotation.		Reappear'd by solar rotation.		Total No. visible.		REMARKS.
	Gr'ps	Spots	Gr'ps	Spots	Gr'ps	Spots	Gr'ps	Spots	
8, 12 m.							2	7	
11, 12 m.	1	6			1	6	1	6	
12, 12 m.	1	5	0	0	1	5	2	12†	
14, 1 p.	2	8†	0	0	0	0	4	20†	
15, 3 p.	1	10†	0	0	1	5	5	30†	
18, 11 a.	0	0	1	2	0	0	3	25†	
22, 11 a.	1	3			1	3	5	20†	
23, 9 a.	1	1	0	5	1	1	6	15†	Spots mostly small.
24, 9 a.	0	0	2	5	0	0	6	10†	Do.
26, 12 m.	0	0	1	2	0	0	3	8	Do.
30, 10 a.	1	1					3	6	

†Approximated. Faculae were seen at the time of every observation.

Wicklow, Dakota, 15.—At 4.15 p. m. a large oblong spot was observed on the sun's disc near the centre, with a group of spots toward the northwestern quadrant; a smaller spot was also observed about midway between the centre and upper edge.

North Lewisburg, Ohio.—Mr. H. D. Gowy reports: Sun spots were seen on all clear days during the month; they were most numerous on the 2d; least numerous on the 11th; largest on the 18th, and smallest at the close of the month.

METEORS.

A remarkably brilliant meteoric display occurred on the night of January 3d. The phenomenon was observed at stations in Wisconsin, Michigan, Missouri, Iowa, Illinois, Indiana and Ohio, and is generally described as having resembled a large, bright ball of fire. The following reports in connection therewith are of interest:—

Ohio.—Cincinnati: At about 7.00 p. m., 3d, a meteor of unusual size and brilliancy passed in a southwesterly direction from a point slightly east of north. The meteor was apparently as large as a man's head and resembled a ball of fire surrounded by a halo of light, which, in turn was surmounted by a circle of greenish color.

North Lewisburg, Champaign county: at 7.15 p. m., 3d, a meteor, resembling a small white star was observed to pass